



**AliveCor™**

# **USER MANUAL**

# **VETERINARY HEART MONITOR**

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## Conventions of this manual

Cautions and Notes associated with use of the AliveCor Veterinary Heart Monitor (“Veterinary Heart Monitor”) are identified by the icons shown below.



### CAUTION

Cautions alert you to possible problems you may encounter as you use the Veterinary Heart Monitor.



### NOTE

Notes alert you to tips or hints that may make it easier for you to use the Veterinary Heart Monitor.



## About the AliveCor Veterinary Heart Monitor

### General information

- Appliance: Veterinary Heart Monitor
- Model: AC-002
- Manufacturer: IDT Technology Limited
- Operation mode: Continuous
- Supply mode: Internal button cell, 3.0V , model: CR2016.
- Protection against harmful ingress of water or particulate matter: IPX0, complies with standard IEC60529

### Product description

The AliveCor Veterinary Heart Monitor (“Veterinary Heart Monitor”) is a mobile, clinical-quality veterinary electrocardiogram (ECG) recorder, for use by both veterinary professionals and animal owners, for dogs, cats and horses (it is not for use on humans). It consists of three components:

1. The Veterinary Heart Monitor which snaps onto the iPhone 4 or 4S only (“iPhone”) and contains sensors and electronics used to collect ECG data and transmit it to the iPhone. (“Hardware”)
2. The AliveECG Vet mobile application (“App”) used to collect, view, save, and wirelessly transmit the ECG data to AliveCor’s servers. (“Software”)
3. A user-supplied Apple iPhone 4 or 4S. (iPhone must be purchased separately; not supplied by AliveCor)

The Veterinary Heart Monitor enables the veterinary professional or animal owner to:

- Collect and view single-lead ECG data using the Apple iPhone 4 or 4S.
- Store ECG data on the iPhone.
- Wirelessly transmit ECG data to AliveCor’s servers.
- Access ECG data stored on AliveCor’s servers from anywhere in the world.

## Preparing the Veterinary Heart Monitor for use

1. Unpacking the Veterinary Heart Monitor and placing onto your iPhone 4 or 4S.
2. Downloading the AliveECG Vet App from the Apple App Store (“App Store”).
3. Setting up an account with AliveCor to house the animals’ information.
4. Configuring the App’s software settings.

## Unpacking the Veterinary Heart Monitor

1. Remove the Veterinary Heart Monitor from the box.
2. Snap the Veterinary Heart Monitor onto the back of your iPhone 4 or 4S, making sure to align the cutout on the case with the camera on the back of your phone.



### NOTE

The AliveCor Veterinary Heart Monitor case will only fit on an Apple iPhone 4 or 4S. To remove the Heart Monitor case from your iPhone, place your thumb in the camera hole cutout, and gently push while pulling back on the top-left corner of the case. The iPhone should pop out of the case easily. Avoid pulling the case off the iPhone using other methods, as this may cause damage to your case.



### CAUTION

Take care not to leave the two electrodes of the case on a metal surface as this will drain the battery in your Veterinary Heart Monitor. It is best to leave the side of the case with the electrodes face up when not in use.

## Downloading the AliveECG Vet App

The AliveECG Vet App can be downloaded from the App Store. The App Store can be accessed through iTunes or by tapping the App Store icon on your iPhone. You must have internet access to download the App.

### Downloading the AliveECG Vet App through your iPhone

1. Ensure that your iPhone is on and the home screen is showing.
2. Launch the App Store application on your iPhone and enter “AliveECG Vet” into the search box.

3. Tap the AliveECG Vet icon.



4. Tap the “FREE” button, then “INSTALL.” When prompted, sign in to your iTunes account or create a new account if needed.



#### CAUTION

Carrier charges may apply for downloading the AliveECG Vet App.

### Downloading the AliveECG Vet App through iTunes

1. Ensure you have iTunes installed on your computer, or download it for free from:  
<http://www.apple.com/itunes/>.
2. Launch the iTunes application.
3. Enter “AliveECG Vet” into the search box, located in the top right corner of the screen.
4. Locate the AliveECG Vet icon and click “FREE” to begin the download process. When prompted, sign in to your iTunes account, or create a new account if needed, and follow the onscreen instructions.
5. Once iTunes has completed downloading the AliveECG Vet App, connect your iPhone to your computer using the Apple Dock Connector to USB Cable. The cable was included with your iPhone.
6. On the menu on the left hand side, “Devices” will appear. Click on your device name.
7. At the top of the screen, click on “App”. You will see a list of apps and an image of the device screen.
8. Click on the “Sync Apps” button in the upper left of the screen if it is not already checked.
9. If a message appears asking if you want to sync apps, click “Sync Apps”.
10. In the list of apps, find the AliveECG Vet App and check the box next to “AliveECG Vet.”
11. Click “Apply” in the lower right corner of the screen.

12. After syncing is done, eject and unplug your iPhone and you are ready to use the AliveECG Vet App.



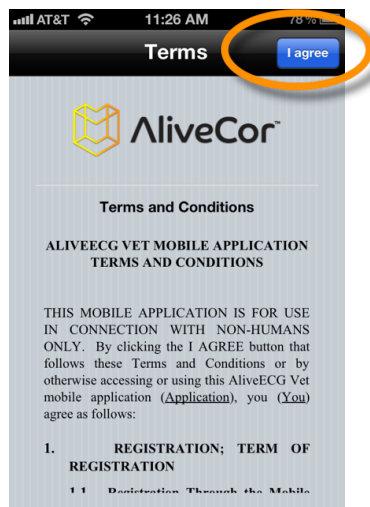
These instructions are subject to change. For more information on downloading apps from the App Store or syncing your iPhone, refer to the Help section of iTunes.

## Creating or logging into your AliveCor Vet account

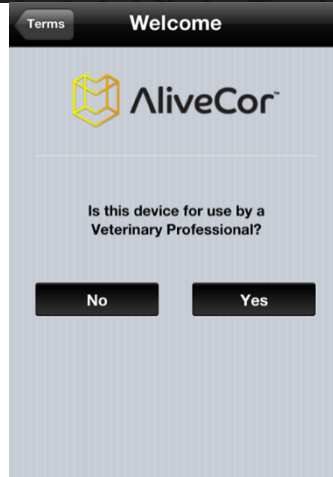
You will use your AliveCor account to transmit ECG data to the web, and to access, print and save an animal's ECG data stored on AliveCor's servers.

### Creating an account, or logging in, within the AliveECG Vet App

1. Open the AliveECG Vet App on your iPhone.
2. Read and accept the AliveECG Vet Mobile Application Terms and Conditions by scrolling through the text and then tapping the “I Agree” button in the top right corner of the screen.



3. On the following screen, you are asked the question: “Is this device for use by a Veterinary Professional?”.
4. If you are a veterinary professional (e.g., veterinarian, veterinary technician), then answer “Yes”.  
If you are an animal owner, then answer “No”.



**NOTE**

The basic functionality of the App will be the same whether you answer “Yes” or “No” to this question, with the exception of being able to input different user details within the App’s settings. Please note that you will be able to change your answer to this question on the Settings screen at a later time.

- On the next screen, enter your user details. For veterinary professionals, this will include your name and practicing institution (i.e., the name of your hospital or clinic). For animal owners, this will include your name and the name, species, breed and date of birth of the animal.

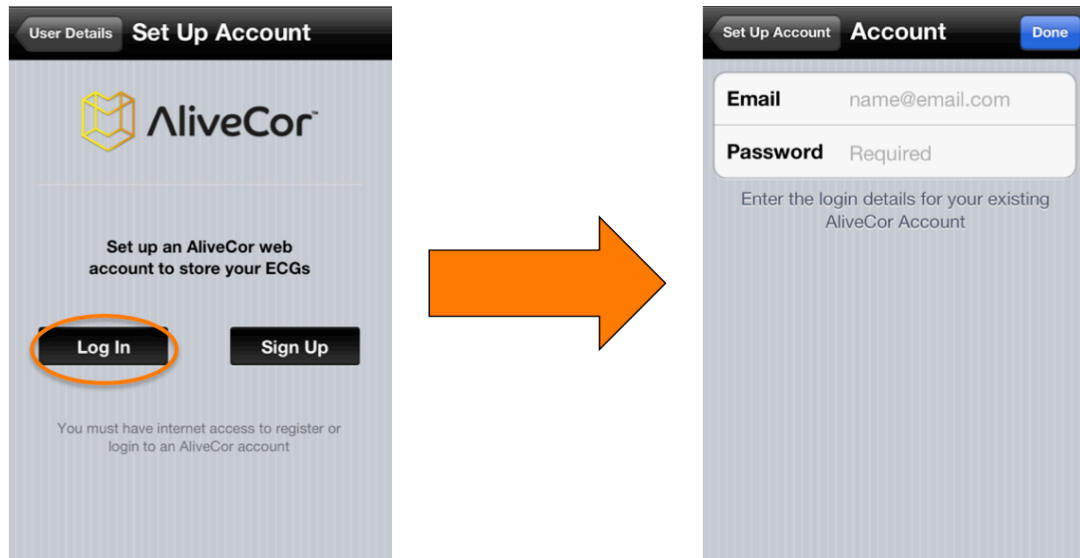


**Veterinary professional details screen**

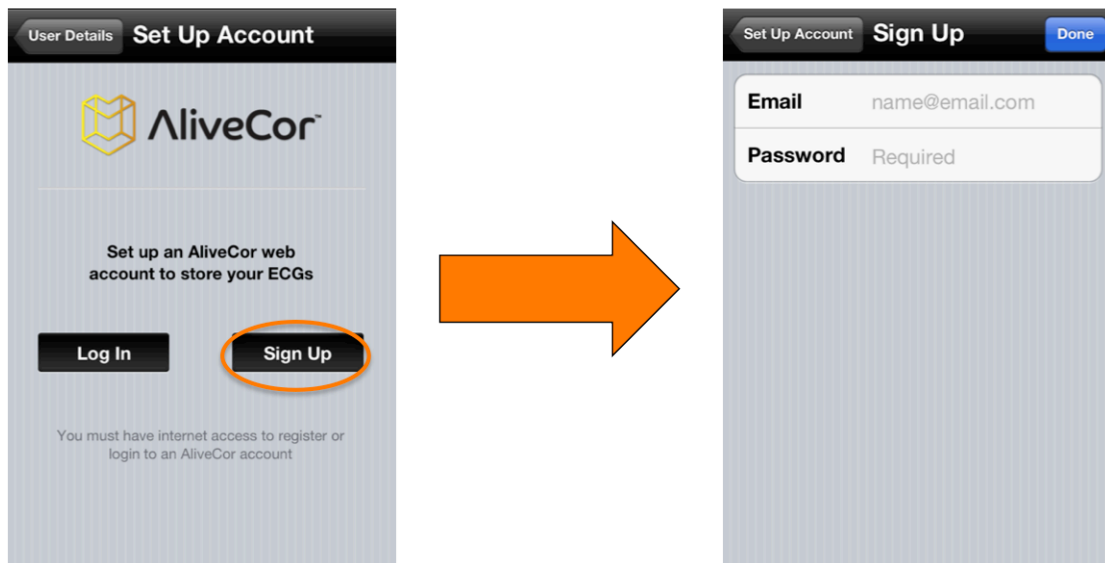


**Animal owners details screen**

6. Tap the “Next” button in the top right corner of the screen.
7. You will now be prompted to either log in to your AliveCor account or create a new one.
8. If you have created an account on our website, then tap the “Log In” button and input the email address and password that you used to create the account on the next screen.



9. If you need to create a new account, then tap the “Sign Up” button and input your email address and password in the designated fields.



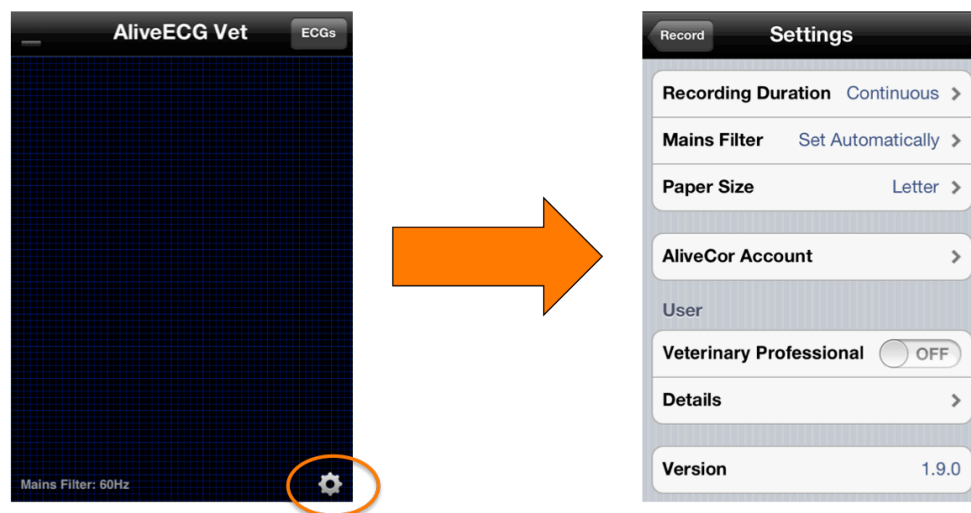
10. Tap the “Done” button in the top right corner of the screen.

### Creating an account on the [alivecorvet.com](http://app.alivecorvet.com) website

1. Alternatively to creating an account within the AliveECG Vet app, you may also create an account through the web. On your web browser, go to <http://app.alivecorvet.com/signup>.
2. Complete the fields on the page by entering your email address and creating a password.
3. Click Submit. (Keep a record of your password, as you will need it to log in)

### Configuring the App's software settings

1. On the main ECG recording screen, tap the Settings icon  in the bottom right corner of the screen.



2. Set the Recording Duration (the maximum length that an ECG will record at a given time) for either 30 seconds, 1 minute, 2 minutes, 3 minutes, 4 minutes, 5 minutes or Continuous. Continuous is the default setting, and under this setting an ECG will record until you remove the electrodes from the animal's skin.
3. The Mains Filter removes any mains interference from the ECG and is set to Automatic by default. You can adjust this setting to 50Hz or 60Hz; however, this is not typically necessary as it will adjust automatically based upon the GPS location of your phone.
4. Adjusting the Paper Size will allow you to choose the appropriate setting for printing. The default is Letter, which is the appropriate size for printing in the United States.
5. The email address and password that you used to log into, or create, your AliveCor account in the App will be stored in the AliveCor Account setting. These are the credentials that will link the App to your account on the web. If you would like to link a different account that you have previously

created, then you can insert the email address and password of that account here and tap the “Done” button.

6. The On/Off toggle for Veterinary Professional can be adjusted by tapping the toggle switch with your finger, and it will change the field options under the Details setting screen.
7. If Veterinary Professional is On, then you will be able to adjust the Name (veterinary professional name) and Institution (affiliated veterinary clinic or hospital) within the User Details setting. If Veterinary Professional is Off, then you will be able to adjust the Animal and Owner information within the User Details setting.

## Using the AliveECG Vet App on your iPhone

### Collecting ECG data using the Veterinary Heart Monitor

1. Remove any headphones that are attached to the iPhone, and disconnect from charging cable.
2. Clean the two electrodes before each use, using a non-abrasive soft cloth or cotton swab, moistened with an alcohol-based sanitizer.
3. Move away from similar types of products, such as audio and video products that could cause interference. For more information, see “Important Safety Notes” in this manual.
4. Ensure the Veterinary Heart Monitor is properly attached to your iPhone 4 or 4S.



#### CAUTION

Do not to leave the two electrodes of the case on a metal surface as this will drain the battery in your Veterinary Heart Monitor. It is best to leave the side of the case with the electrodes face up when not in use.

5. Using your iPhone, launch the AliveECG Vet App.
6. After the AliveCor logo screen fades away, you will see the blue ECG Recording screen. When you see this screen your device is ready to record an ECG.
7. To record an ECG from the animal's chest:
  - a. Lay the animal down on its right side. (Readings can also be taken while the animal is standing, but we have found that laying the animal down generates a cleaner recording)
  - b. Soak the intended use area on the left side of the animal's chest with alcohol (no need to shave in most cases). Do not apply alcohol or use if the area is irritated or wounded.
  - c. In some cases, moving hair aside or even clipping the animal's fur may be necessary to obtain a proper recording.
  - d. Place the Veterinary Monitor at a diagonal (~45° angle) on the chest, parallel to and above the long axis of the heart. See **Figure 1** below.
  - e. Orient the Veterinary Monitor so the iPhone's round button is closer to the animal's head to help ensure proper polarity (this will prevent the ECG from appearing upside down when you review it later).
  - f. Apply firm, even pressure and ensure that the iPhone (and animal) remain steady during ECG collection.

-OR-

To record a Lead I ECG rhythm (see **Figure 2** below) from a dog or cat:

- Clean the animal's front paws using alcohol.
- Place one of the animal's front paws on each of the electrodes. (one paw on each electrode)
- Apply firm, even pressure to the Veterinary Monitor during ECG collection.



#### CAUTION

As you are applying pressure between the animal's paws and the Heart Monitor, be sure not to contact your skin to the electrodes on the Monitor, as this will interfere with the ECG reading. We recommend that you wear gloves to prevent this from happening.



**Figure 1:** ECG reading from chest



**Figure 2:** ECG reading from paws



#### NOTE

The green bars in the upper left corner of the AliveECG Vet App indicate when there is a connection between the animal and the electrodes.



#### CAUTION

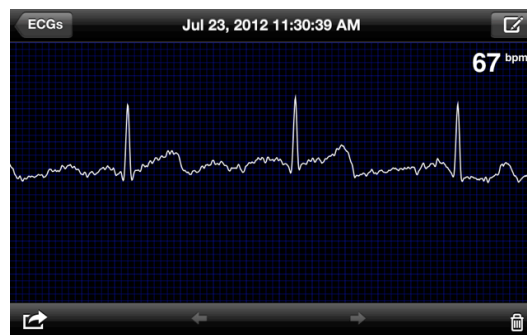
At times, the Veterinary Heart Monitor cannot distinguish between the P, R and T waves in an ECG complex and will count extra beats if the P and T waves are large enough to trigger detection. This could potentially lead to false heart rate readings in some animals.

8. The AliveECG Vet App will record the ECG rhythm for the selected Recording Duration (see “Configuring the App’s software settings” above). When the recording is complete, the data will be saved to your iPhone.

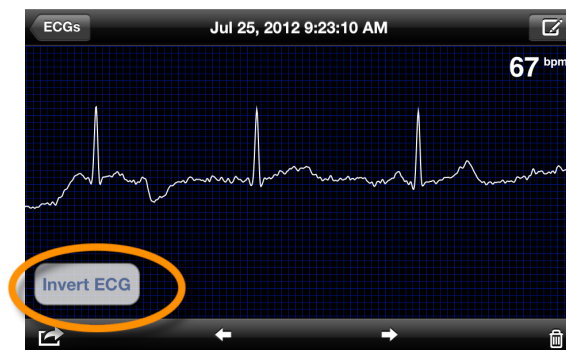
**CAUTION**

If you remove contact before 10 seconds of recording has occurred, the ECG will not be saved, and you will not be able to review it. Be sure to record at least 10 seconds of ECG rhythm data.

9. After the recording finishes, you will see the ECG Review screen and the average heart rate of the animal will appear in the top right corner of the screen.

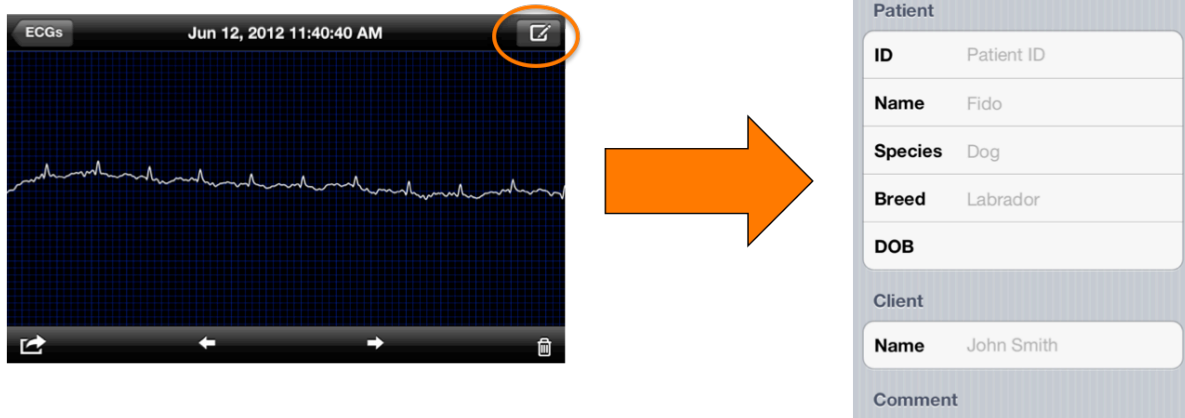


10. You may move your finger horizontally across the screen to scroll through the ECG data that has been collected.
11. In the event that the Veterinary Heart Monitor was improperly oriented when the ECG rhythm was recorded, the data may appear upside down (inverted). The ECG rhythm may be adjusted to the correct orientation by tapping anywhere on the ECG Review screen, and then by tapping the “Invert” button that appears at the bottom left of the screen.



## Editing ECG details on the iPhone

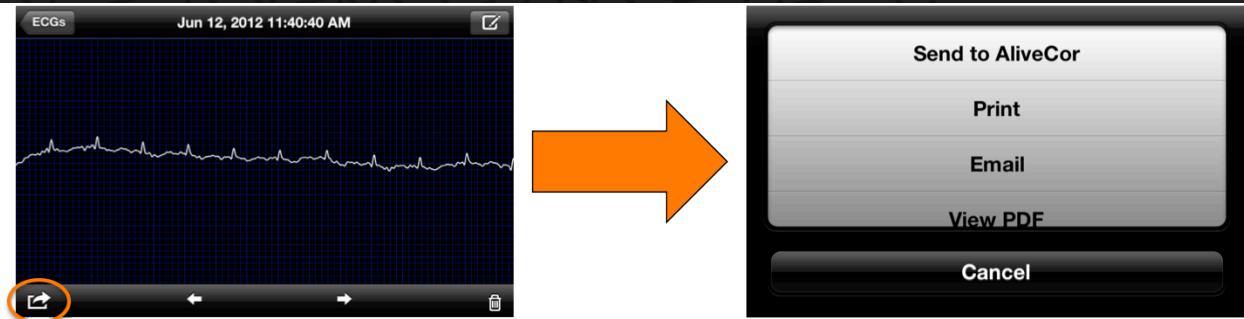
After recording an animal's ECG, you are able to edit the details of the ECG by tapping the Compose icon  in the top right corner of the ECG Review screen. Here you will be able to edit a number of details about the ECG:



1. **ID:** This field enables you to enter the ID number that your practice uses to identify the patient. (This field only appears if you have indicated that you are a veterinary professional.)
2. **Animal name:** This field enables you to enter the name of the animal.
3. **Animal species:** This field enables you to enter the species (e.g., dog, cat, horse) of the animal.
4. **Animal breed:** This field enables you to enter the breed (e.g., Golden Retriever, Russian Blue) of the animal.
5. **Animal DOB:** This field enables you to enter the date of birth of the animal.
6. **Client/Owner name:** This field enables you to enter the name of the client/owner of the animal.
7. **Comment:** This field enables you to enter any comments that you might have about the ECG (e.g., patient medications, diagnosis).
8. **Measurement position:** This field enables you to enter the position (e.g., chest, paws) from which the ECG was recorded, or the lead (e.g., Lead I, Lead II) of the ECG recording.

## Storing, sharing, printing and emailing ECGs

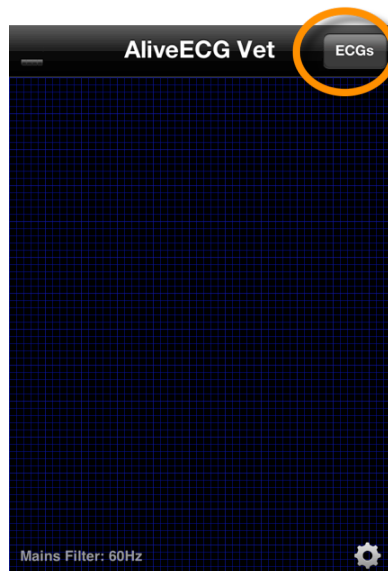
Recording ECGs can be shared and transmitted in a number of ways by tapping the Action icon  in the bottom left corner of the screen. After tapping this icon, you will see four options:



1. **Send to AliveCor:** This will send the ECG to the secure AliveCor server.
2. **Print:** If you have a wireless printer, this will allow you to print the ECG. For a list of AirPrint printers, see this article from Apple: <http://support.apple.com/kb/ht4356>.
3. **Email:** This will open the native iPhone email application so that you can send a PDF of the ECG by email.
4. **View PDF:** This will open the ECG in PDF format on your iPhone.

### Viewing previously recorded ECGs on the iPhone

1. Tap the “ECGs” button in the top right corner of the ECG Recording screen (the blue screen that displays AliveECG Vet at the top).



2. On the ECGs screen, you will see a list of all ECG rhythms (of at least 10 seconds) which have been recorded using your iPhone (excluding any previously deleted).

| Record                          | ECGs  | Edit |
|---------------------------------|-------|------|
| Jul 26, 2012 7:39:55 AM (10s)   | 99bpm |      |
|                                 | Sent  | >    |
| Jul 26, 2012 7:35:01 AM (10s)   | 95bpm |      |
|                                 | Sent  | >    |
| Jul 26, 2012 7:32:06 AM (10s)   | 94bpm |      |
|                                 | Sent  | >    |
| Jul 26, 2012 7:26:48 AM (10s)   | 89bpm |      |
|                                 | Sent  | >    |
| Jul 25, 2012 9:56:46 AM (11s)   | 37bpm |      |
|                                 | Sent  | >    |
| <b>Fido, Cat</b>                |       |      |
| Jul 25, 2012 9:23:50 AM (30s)   | 70bpm |      |
|                                 | Sent  | >    |
| Jul 25, 2012 9:23:10 AM (11s)   | 67bpm |      |
|                                 | Sent  | >    |
| <b>Brutus, Doberman (15yrs)</b> |       |      |
| Jul 24, 2012 3:32:29 AM (30s)   | 79bpm |      |
|                                 | Sent  | >    |
| Jul 23, 2012 1:30:59 PM (9s)    |       |      |
|                                 | Sent  | >    |
| Jul 23, 2012 11:30:39 AM (30s)  | 67bpm |      |

- The list of recorded ECGs will include date and time of recording, as well as recording duration and average heart rate by default. Also, if previously entered, the list will display animal name, breed (or species if no breed entered) and age.
- Tap an ECG recording on this screen to view. This will take you to the ECG Review screen. You will see the date and time of recording at the top.

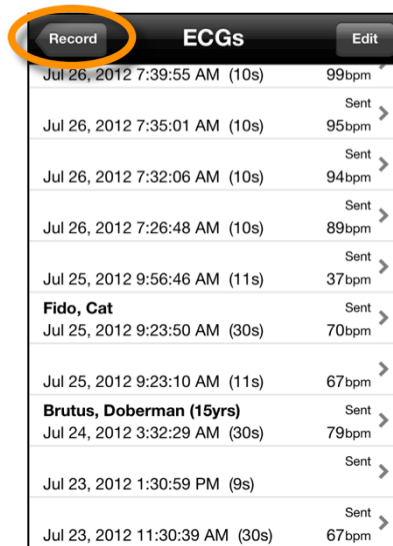


As with newly recorded ECGs, you can edit the ECG details of a previously recorded ECG by tapping the pencil icon in the top right corner of the ECG Review screen.

- From the ECGs screen you can delete previously recorded ECGs by tapping the “Edit” button in the top right corner of the screen, then tapping the red minus button next to the ECG that you would like to delete, and “Delete”.



- If you wish to return to the ECG Recording screen, then tap the “Record” button in the top left corner of the ECGs screen.



## Using the AliveCor Vet website

### Logging into the AliveCor Vet website

- From your web browser, go to <http://app.alivecorvet.com/login>.
- On the Sign In page, enter your email address and the password you created when you set up your AliveCor account. Click the Sign In button.

3. If you have not yet created an AliveCor account, then click on the “Create one” link and follow the steps provided.
4. If you have forgotten your password, click on the “Forgot password?” link. On the next page, enter your email address that you used to create your account, and click “Submit”. You will receive an email with a link to reset your password. If you do not receive this email within 5 minutes, the please contact AliveCor Vet Customer Support at [support@alivecorvet.com](mailto:support@alivecorvet.com).

### **Viewing ECG data that has been sent to AliveCor**

1. Login to the AliveCor Vet website by following the steps outlined above.
2. The ECG data you have collected and transmitted to the AliveCor server will appear in list form, and each transmission is stored as an Adobe Acrobat PDF file. Click on the link of the ECG that you wish to view.
3. A PDF document showing the ECG rhythm will appear.

## Contacting AliveCor Vet Customer Support

You can contact AliveCor Vet Customer Support through our online support portal at <http://support.alivecorvet.com> or through email at [support@alivecorvet.com](mailto:support@alivecorvet.com).

## Using the AliveCor Vet Customer Support portal

To access the AliveCor Vet Customer Support portal, go to <http://support.alivecorvet.com> in your web browser.

### Main Support page

On the Support Page, you will be able to search for a topic of your choice using the search field. You can also find links to featured support articles near the bottom of the Support Page. These featured articles include: videos for app setup, how to use the device and sharing data; as well as links to our Quick Start Guide and this manual.

### Help Topics

In the second tab of the Support Page, labeled “Help Topics,” you can find categories of support articles that will tell you more about the Veterinary Heart Monitor, and will help with topics such as getting set up, using the device, using the app, and troubleshooting.

### Submit a Request

In the third tab of the Support Page, labeled “Submit a Request,” you will be able to send a support request to AliveCor’s Customer Support department.

To submit a request to AliveCor:

1. Enter your email address in the field provided.
2. Choose a support request category from the “Tell Us How We Can Help” dropdown menu.
3. Enter an appropriate Subject that would help us to better understand your request in the Subject field.
4. Enter a description of the issue that you are facing in the Description field. Please include as much detail about your issue as possible. This will help us to help you more efficiently and effectively. Also, feel free to attach any relevant screen shots as well.
5. Click the “Submit” button.

After submitting your support request, someone from the AliveCor Customer Support team will follow up by email within 1 business day. All responses will be sent to the email address that you provide and, if

you have an active AliveCor account, you will be able to access your ticket history in the “Check Your Existing Requests” tab.

### **Check Your Existing Requests**

In the fourth tab of the Support Page, labeled “Check Your Existing Requests,” you will be able to see the details and status of requests that you have previously submitted to AliveCor. This section is accessible only to those with an active AliveCor account.

### **Using [support@alivecorvet.com](mailto:support@alivecorvet.com)**

You can also contact AliveCor’s Customer Support team by email. To do so, simply send an email to [support@alivecorvet.com](mailto:support@alivecorvet.com) from your everyday email address. In the Subject line of your email, please provide a subject that would help us to accurately categorize your issue. In the body of the email, describe your issue in enough detail that will help us to solve it for you. Feel free to attach any relevant screen shots as well.

After submitting your support request, someone from the AliveCor Customer Support team will follow up by email within 1 business day. All responses will be sent to the email address that you used to email us.



## Troubleshooting

| Problem                                                    | Solution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I do not see an ECG signal in AliveCor Vet.                | <p>Check that your animal has good contact with the electrodes. Clean the electrodes and clean and moisten the skin. Make sure the contact between the skin and the electrodes is not obstructed.</p> <p>If the problem persists, replace the battery in your Veterinary Heart Monitor case. See below for instructions on how to change the battery.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| I do not see the ECG rhythm on my AliveCor server account. | <p>Launch the AliveCor Vet app on your phone, and tap “ECGs”. Tap the data set you would like to send to the server. When the data loads, tap the Action button , and tap “Send to AliveCor”.</p> <p>If the problem persists, make sure you are using the correct account username and password in the App and on the web. (See “Configuring the App’s software settings” under “Preparing the Veterinary Heart Monitor for use”).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| My Veterinary Heart Monitor stopped working.               | <p>In most cases, this is a signal that the battery in your Veterinary Heart Monitor has died. The battery should last approximately 6 months to one year; however the actual life will depend on how often you use the device. If it seems that the battery has died, you can change the battery by following these steps:</p> <ol style="list-style-type: none"><li>1. Remove the Veterinary Heart Monitor case from your iPhone.</li><li>2. Use a small screwdriver to remove the screw and battery door from the center of the underside of the Veterinary Heart Monitor case.</li><li>3. Remove the old battery and replace it with a new CR2016 3V lithium manganese dioxide battery, which can be obtained from most electronics or general purpose stores (e.g., Radio Shack, Walgreens, Walmart).</li><li>4. Orient the battery so that you can see the writing.</li><li>5. Replace the battery door and screw with a small screwdriver.</li><li>6. Dispose of the used batteries according to the local law.</li></ol> |



## **Indications and contraindications**

### **Indications for use**

The Veterinary Heart Monitor is intended to be used by licensed veterinary professionals or animal owners to obtain single-lead electrocardiogram (ECG) rhythms from dogs, cats and horses.

### **Contraindications**

- The device should not be used on humans.
- The device should not be used in a wet environment.

## Precautionary information

### Complications

There are no known medical complications arising from use of the Veterinary Heart Monitor.

### Maintenance and handling

No maintenance of this system is required, except:

- The battery should be replaced when necessary.
- Do not use batteries of a type other than that specified in this manual.
- Be certain to insert the battery with correct polarity. You should be able to see the writing on the battery.
- Do not otherwise disassemble, repair, or modify the unit.
- Do not use this device while charging the iPhone.
- Do not use this device while headphones are plugged into the iPhone.
- Do not record if the electrodes are dirty.
- The electrodes should be cleaned using alcohol-based sanitizer before each use. Use a non-abrasive cloth or cotton swab to ensure no scratching of the device's electrodes.
- Do not expose the unit to strong shocks or vibrations.
- Do not drop or step on the unit.
- Do not take measurements in a moving vehicle.
- Do not use this unit in locations subject to high or low temperatures or humidity. It should be used within the temperature range of +50 to +104°F (+10 to +40°C), and between relative humidity (RH) of 30 and 85%.
- Do not wash this unit with water.

### Important safety notes

**THIS UNIT IS NOT DESIGNED OR INTENDED FOR COMPLETE DIAGNOSIS OF CARDIAC CONDITIONS.**

- Do not use this device with a defibrillator.
- Do not use in the presence of flammable anesthetics, drugs or pressurized oxygen (such as in a hyperbaric chamber, ultraviolet sterilizer or oxygen tent).
- If you are not a veterinary professional, do not attempt to diagnose or treat your animal based on the measurement results.
- Always consult your veterinary professional.
- Diagnosis or treatment performed by someone other than a licensed veterinarian may lead to deterioration in your animal's condition.



- Do not use this device during an MRI scan.
- Do not use this device on animals with sensitive skin or allergies.
- When your animal experiences symptoms potentially related to heart disease, always consult your veterinarian, even if the measurements appear normal.
- If the portion of the body where the electrode is applied has too much body fat, body hair or very dry skin, a successful reading may not be possible.
- Do not expose the unit to static electricity.
- Always disperse any static electricity from your body before handling the unit.
- Keep out of reach of infants, small children, or anyone incapable of using the device properly.
- Do not use for any purpose other than obtaining an electrocardiogram.

## Storage

The Veterinary Heart Monitor case contains built-in electronics. Store it at room temperature and avoid contact with water.

The Veterinary Heart Monitor should be stored in a dry place when not in use. The storage temperature range is -4 to +113°F (-20 to 45°C).

## Other information

### Symbols used in labeling



The product complies with the WEEE Directive 2002/96/EC marking requirements indicating that the product cannot be disposed of as a general household appliance.



The product complies with applicable EC directives to allow for sale within the European Economic Area.

### Veterinary Heart Monitor specifications

| Characteristics                | Test Conditions                                       | MIN  | TYP       | MAX | UNIT                         |
|--------------------------------|-------------------------------------------------------|------|-----------|-----|------------------------------|
| <b>Physical</b>                |                                                       |      |           |     |                              |
| <b>Length</b>                  |                                                       |      |           | 118 | mm                           |
| <b>Width</b>                   |                                                       |      |           | 62  | mm                           |
| <b>Thickness</b>               |                                                       |      |           | 15  | mm                           |
| <b>Weight</b>                  |                                                       |      |           | 40  | g                            |
| <b>Electrical</b>              |                                                       |      |           |     |                              |
| <b>Channels</b>                | Single Channel                                        |      |           |     |                              |
| <b>Recording Resolution</b>    |                                                       |      |           | 16  | bit                          |
| <b>Recording Sampling Rate</b> |                                                       |      |           | 300 | samples/sec                  |
| <b>Input Dynamic Range</b>     |                                                       |      |           | 10  | mV Peak to Peak              |
| <b>Bandwidth</b>               |                                                       | 0.62 |           | 40  | Hz                           |
| <b>CMMR</b>                    |                                                       |      |           | 76  | dB                           |
| <b>DC Offset Correction</b>    |                                                       | -300 |           | 300 | mV                           |
| <b>Input Impedance</b>         |                                                       | 100  |           |     | MOhm                         |
| <b>Heart Rate</b>              |                                                       |      |           |     |                              |
| <b>Range</b>                   |                                                       | 30   |           | 270 | beats/min                    |
| <b>Calculation</b>             | Measurement of single R-R interval                    |      |           |     |                              |
| <b>Power Source</b>            |                                                       |      |           |     |                              |
| <b>Source</b>                  | CR2016 lithium MnO <sub>2</sub> battery (replaceable) |      |           | 3   | V                            |
| <b>Operating</b>               |                                                       |      | 12<br>150 |     | months<br>hours (continuous) |



|                              |                |    |  |     |                 |
|------------------------------|----------------|----|--|-----|-----------------|
|                              |                |    |  |     | use)            |
| <b>Environmental</b>         |                |    |  |     |                 |
| <b>Operating Temperature</b> |                | 0  |  | 45  | degrees Celsius |
| <b>Relative Humidity</b>     | Non-condensing | 10 |  | 95  | percent         |
| <b>Atmospheric Pressure</b>  |                | 70 |  | 106 | kPa             |

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